

**Remarks**

In the instant Office Action dated January 4, 2008, the following rejections are noted: claims 1-10 stand rejected under 35 U.S.C. § 112(2); and claims 1-10 stand rejected under 35 U.S.C. § 103(a) over the Yuji reference (Japanese Pat. Pub. 05-343691) in view of the Wu reference (U.S. Patent No. 6,518,126).

Applicant respectfully traverses the § 112(2) rejection of claims 1-10 because the claims do particularly point out and distinctly claim the subject matter which Applicant regards as the invention. It appears that the Office Action has not asserted any specific claim language as being indefinite, but rather that limitations be inserted in order to address the ancillary questions raised in the Office Action (such as “What other channel configurations may be generated by the second gate?”, and “How do any additional configurations integrate with the vertical channel portion?”). Applicant submits that such an assertion is contrary to M.P.E.P. § 2173.04 because the “(b)readth of a claim is not to be equated with indefiniteness.” *See In re Miller*, 441 F.2d 689 (CCPA 1971). Applicant submits that the scope of the claims would be clear to one of skill in the art, and that they are exemplified in the detailed description and thus the claims are definite. *See, e.g.*, M.P.E.P. § 2171.

Applicant previously presented this argument in the Office Action Response dated October 9, 2007 (hereby incorporated by reference in its entirety) to which the Office Action failed to respond in any manner. While Applicant will address the merits, Applicant is concerned with the procedures and repeated effort involved herewith. In this context, the Office Action simply repeated the § 112(2) rejection without responding to the substance of Applicant’s previous arguments as required. The Office Action did not even acknowledge Applicant’s previous arguments regarding the impropriety of the § 112(2) rejection. *See, e.g.*, M.P.E.P. § 707.07(f) (“Where the applicant traverses any rejection, the Examiner should, if he or she repeats the rejection, take note of the applicant's argument and answer the substance of it.”). Accordingly, the § 112(2) rejection of claims 1-10 is improper and Applicant requests that it be withdrawn.

Applicant respectfully traverses the § 103(a) rejection of claims 1-10 because the English translation of the Yuji reference provided with the Office Action is insufficient to allow Applicant to determine the propriety of the rejection. According to M.P.E.P.

§ 706.02, “If the document is in a language other than English and the Examiner seeks to rely on that document, a translation must be obtained so that the record is clear as to the precise facts the Examiner is relying upon in support of the rejection.” Applicant is unable to determine the propriety of the rejection because the provided English translation of the Yuji reference is incomplete and nonsensical. For example, the translation states in relation to Figure 5 (which was cited by the Office Action) that “if it carries out like this drawing 5, since the potential of the electrode 21 in a slot 16 will become higher than the gate electrode 18 in drawing 1 -- pressure-proofing -- the field strength of a slot side attachment wall -- not being decided -- p mold -- a well -- a field 11 to n+”. In another example, the provided translation contains numerous incomplete sentences. As such, Applicant is unable to ascertain what the Yuji reference teaches and is thus unable to determine the propriety of the rejection.

Applicant previously presented this argument in the Office Action Response dated October 9, 2007 to which the Office Action failed to respond. The rejection in the instant Office Action is still based upon the Yuji reference and the Office Action has not provided a complete and accurate English translation of the Yuji reference as previously requested by Applicant. Applicant remains unable to determine the propriety of the rejection because the provided English translation of the Yuji reference is incomplete and nonsensical as discussed above. Accordingly, the § 103(a) rejection of claims 1-10 is improper and Applicant requests that it be withdrawn. Should any rejection based upon the Yuji reference be maintained, Applicant once again requests a complete and accurate English translation of the Yuji reference and an opportunity to respond thereto.

Applicant further traverses the § 103(a) rejection of claims 1-10 because the Office Action has failed to establish a *prima facie* case of obviousness. According to M.P.E.P. § 2142, “The Examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the Examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness.” In this instance, the Office Action fails to assert correspondence to numerous aspects of claims 1-10. The Office Action’s entire rejections in the instant and previous Office Actions consist of the following:

As seen, for example, in FIGS 1 and 5 of Yuji, an insulated gate device may be formed with two independently biased gate members. One which forms a vertical channel such as gate (21), and another which forms a lateral channel such as gate (22). The proximity of these gates would produce channel regions that are combined, as claimed. This reference also shows multiple transistor cells and supporting circuitry, as claimed. Page 2 of the previous Office Action.

The discussion of the Yuji reference is hereby incorporated by reference from the previous rejection. In addition to Yuji teaching the basic structure of forming two independent gates to control an FET, where both a vertical channel and a lateral channel are formed, Wu is cited to add the well known variation of a trench gate structure which serves to facilitate a vertical channel region, as claimed. See, for example, FIG 4A configuration of Wu, and the accompanying discussion. Page 2 of the instant Office Action.

The Office Action has failed to address numerous aspects of the claimed invention, examples of which were presented by Applicant in the Office Action Response dated October 9, 2007. Regarding claim 1, the Office Action has not cited to any portion of the Yuji reference or the Wu reference as allegedly corresponding to a plurality of electrically parallel transistor cells. Regarding claim 2, the Office Action has not cited to any portion of the Yuji reference or the Wu reference as allegedly corresponding to the second gate being located on top of the trench that forms the first gate. Contrary to the Office Action's implication, Figure 5 from the Yuji reference does not show that gate electrode 22 is located on top of electrode 21. Regarding claim 3, the Office Action has not cited to any portion of the Yuji reference or the Wu reference as allegedly corresponding to the second gate having an insulated trench-gate portion and an insulated planar gate portion. Contrary to the Office Action's implication, Figure 5 from the Yuji reference does not show that gate electrode 22 has an insulated trench-gate portion.

Moreover, the rejections presented in the Office Actions merely discuss the cited references without providing any indication regarding how the Office Action is asserting that these teachings correspond to the various aspects of the claimed invention (*i.e.*, without stating which parts of the references allegedly correspond to each of the elements of the claimed invention). For example, the Office Action asserts that both the Yuji reference and the Wu reference teach vertical trench gates; however, no clarification is provided regarding which aspects of the claimed invention the Office Action is asserting as allegedly corresponding to each of these trench gates.

In view of the above, the Office Action has failed to establish a *prima facie* case of obviousness. Accordingly, the § 103(a) rejection of claims 1-10 is improper and Applicant requests that it be withdrawn.

Applicant further traverses the § 103(a) rejection of claims 1-10 because the Office Action relies upon improper conclusory statements in asserting obviousness, thereby directly contradicting M.P.E.P. § 2142 which states that “rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *See, also KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (U.S. 2007). For example, the Office Action simply concludes that the proximity of gates 21 and 22 of the Yuji reference would produce channel regions that are combined as claimed; however, the Office Action has not presented any evidence that gates 21 and 22 of the Yuji reference would in fact produce such a result. As discussed above, the provided English translation of the Yuji reference is incomplete and nonsensical; thus, Applicant submits the provided copy of the Yuji reference does not provide support for the Office Action’s assertion. Applicant requests that the Examiner provide support for the assertion that the proximity of Yuji’s gates 21 and 22 would produce channel regions that are combined as claimed. *See, e.g.*, M.P.E.P. § 2144.03 (“It would not be appropriate for the examiner to take official notice of facts without citing a prior art reference where the facts asserted to be well known are not capable of instant and unquestionable demonstration as being well-known.”) Accordingly, the § 103(a) rejection of claims 1-10 is improper and Applicant requests that it be withdrawn.

Applicant further traverses the § 103(a) rejection of claims 1-10 because the Office Action fails to provide adequate detail regarding the proposed combination of the Yuji and Wu references to enable Applicant to determine the propriety of such a combination. In order to comply with 35 U.S.C. § 132, sufficient detail must be provided by the Examiner regarding the alleged correspondence between the claimed invention and the cited reference to enable Applicant to adequately respond to the rejections. *See, also*, 37 CFR 1.104 (“The pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified.”) and M.P.E.P. § 706.02(j), (“It is important

for an Examiner to properly communicate the basis for a rejection so that the issues can be identified early and the applicant can be given fair opportunity to reply.”)

In this instance the Office Action cites to portions of the Wu reference relating to a trench gate structure; however, the Office Action does not provide any detail regarding how Wu’s trench gate structure is to be combined with the Yuji reference. The Office Action asserts that both the Yuji and Wu references teach vertical trench gates. As such, it is unclear whether the Office Action is proposing to replace Yuji’s gate 21 with the teachings of the Wu reference or whether the Office Action is adding Wu’s vertical trench gate in addition to Yuji in some unspecified manner. According to M.P.E.P. § 2143, “The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR* noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit.” Thus, Applicant requests that the Examiner explicitly identify how the Examiner is proposing to combine the Yuji and Wu references. Accordingly, the § 103(a) rejection of claims 1-10 is improper and Applicant requests that it be withdrawn.

Applicant further traverses the § 103(a) rejection of claims 1-10 because the Office Action’s asserted basis to combine the Yuji and Wu references is contrary to the requirements of § 103 and relevant law. “A patent composed of several elements is not proved obvious merely by demonstrating that each element was, independently, known in the prior art.” *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (U.S. 2007). In this instance, the Office Action improperly concludes that it would be obvious to combine the cited teachings of the Wu reference with the Yuji reference “in order to save space on the semiconductor chip by utilizing a vertical gate configuration.” *See, e.g.*, page 2 of the instant Office Action. However, the Office Action has not provided any evidence that the proposed combination would save space in the configuration taught by the Yuji reference. Applicant submits that the statements made in the Office Action amount to no more than conclusory statements of generalized advantages and convenient assumptions about skilled artisans. Such statements and assumptions are inadequate to support a finding of motivation, which is a factual question that cannot be resolved on subjective belief and unknown authority. Thus, the Office Action relies upon improper conclusory statements in asserting obviousness. *See, e.g.*, M.P.E.P. § 2142. Accordingly, the

§ 103(a) rejection of claims 1-10 is improper and Applicant requests that it be withdrawn.


In view of the issues presented above, should any rejection based upon the Yuji reference be maintained, Applicant respectfully requests an opportunity to respond thereto. According to M.P.E.P. § 706.07, "Before final rejection is in order a clear issue should be developed between the examiner and applicant." Applicant submits that a clear issue has not been developed between Applicant and the Examiner due to the lack of a complete and accurate English translation of the Yuji reference and in view of the above discussion. Accordingly, should any rejection based upon the Yuji reference be maintained, Applicant should be afforded an opportunity to respond.

In view of the remarks above, Applicant believes that each of the rejections has been overcome and the application is in condition for allowance. Should there be any remaining issues that could be readily addressed over the telephone, the Examiner is asked to contact the agent overseeing the application file, Peter Zawilski, of NXP Corporation at (408) 474-9063 (or the undersigned).

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